```
#include <stdio.h>
#define N 5

int q[N];
int front = -1, rear = -1;
void insert(int);
int delete();
void display();
void main()
{
   int n, choice;
   do
   {
      printf("\n1.Insert\n2.Delete\n3.Display\n4.Exit\n");
      printf("Enter your option : \n");
      scanf("%d", &choice);
      switch (choice)
      {
      case 1:
         printf("Enter the number to be inserted in the queue : \n");
         scanf("%d", &n);
         insert(n);
         break;
      case 2:
         n = delete ();
         if (n != -1)
            printf("\n The number deleted is : %d\n", n);
         break;
      case 3:
         display();
         break;
```

```
        case 4:
            exit(0);
            break;
        default:
            printf("Invalid option\n");
            exit(0);
            break;
        }
    } while (choice != 4);
}
void insert(int num)
{

    if (rear == N - 1)
        printf("\n OVERFLOW");
    else if (front == -1 && rear == -1)
        front = rear = 0;
    else
        rear++;
    q[rear] = num;
}
int delete()
{
    int val;
    if (front == -1 || front > rear)
    {
        printf("\n UNDERFLOW");
        return -1;
    }
    else
    {
```

```
        val = q[front];
        front++;
        if (front > rear)
            front = rear = -1;
        return val;
    }
}
void display()
{
    int i;
    printf("\n");
    if (front == -1 || front > rear)
        printf("\n QUEUE IS EMPTY");
    else
    {
        for (i = front; i <= rear; i++)
            printf("\t %d", q[i]);
    }
}
```

Output : 1.Insert

2.Delete

3.Display

4.Exit

Enter your option :

1

Enter the number to be inserted in the queue :

1

1.Insert

2.Delete

3.Display

4.Exit

Enter your option :

1

Enter the number to be inserted in the queue :

2

1.Insert

2.Delete

3.Display

4.Exit

Enter your option :

1

Enter the number to be inserted in the queue :

3

1.Insert

2.Delete

3.Display

4.Exit

Enter your option :

1

Enter the number to be inserted in the queue :

4

1.Insert

2.Delete

3.Display

4.Exit

Enter your option :

1

Enter the number to be inserted in the queue :

5

1.Insert

2.Delete

3.Display

4.Exit

Enter your option :

1

Enter the number to be inserted in the queue :

6

OVERFLOW

1.Insert

2.Delete

3.Display

4.Exit

Enter your option :

2

The number deleted is : 1

1.Insert

2.Delete

3.Display

4.Exit

Enter your option :

2

The number deleted is : 2

1.Insert

2.Delete

3.Display

4.Exit

Enter your option :

2

The number deleted is : 3

1.Insert

2.Delete

3.Display

4.Exit

Enter your option :

2

The number deleted is : 4

1.Insert

2.Delete

3.Display

4.Exit

Enter your option :

2

The number deleted is : 5

1.Insert

2.Delete

3.Display

4.Exit

Enter your option :

2

UNDERFLOW